

UNITED STATES DISTRICT COURT  
DISTRICT OF MASSACHUSETTS

CIVIL ACTION NO. 03-10392-GAO

MYKROLIS CORPORATION,  
Plaintiff,

v.

PALL CORPORATION,  
Defendant.

MEMORANDUM AND ORDER

April 30, 2004

O'TOOLE, D.J.

Plaintiff Mykrolis Corporation ("Mykrolis") and defendant Pall Corporation ("Pall") manufacture and sell fluid separation and filtration systems for the semiconductor industry. In this action, Mykrolis claims that Pall is selling a system that infringes two patents of which Mykrolis is the assignee, U.S. Patent No. 6,068,770 (the "770 Patent") and U.S. Patent No. 6,378, 907 (the "907 Patent"). Mykrolis has moved for a preliminary injunction to enjoin Pall from making, using, selling or offering to sell products which infringe these two patents. Upon review of the pleadings, affidavits, memoranda of law, and after an evidentiary hearing, the Court concludes that Mykrolis is entitled to a preliminary injunction.

I. BACKGROUND

Mykrolis and Pall compete in the business of manufacturing and selling specialized filtration devices for the semiconductor industry. Semiconductors are manufactured in a sterile environment known as a "clean room." During the manufacturing process, liquid chemicals are dispensed onto semiconductor wafers by a specialized pump and are then dispersed into a uniform thin film by a

process known as spin-coating. The liquid chemicals, or fluids, are very expensive and often hazardous, and they need to be free from contaminants when they contact the wafers. To achieve the desired purity, the fluids are filtered at or near the dispense point using separation and filtration devices. The filters in these devices must be replaced periodically, and it is desirable that the filter change-out occur with minimal loss of fluid, without spillage, and without the introduction of contaminants. In addition, because the semiconductor manufacturing device must be shut down while a filter is changed, it is desirable to accomplish the change-out in as little time as possible.

The invention that is disclosed in the '770 and '907 Patents (the "Mykrolis invention") is a fluid separation system having a quick-connect disposable separation module (filter module), which allows for a fluid tight engagement between sets of connectors on both the separation module and a fluid connector member (manifold), and permits quick and easy change-out of the filter. After the separation module is inserted into the device, the fluid tight engagement of the connectors is effected by a vertical motion. The separation module is then locked to the fluid connector member by a second motion which is substantially perpendicular to the first motion, i.e. horizontal. In the Mykrolis invention, this locking is accomplished by a spring loaded latch.

Pall manufactures and sells a device referred to as the PhotoKleen™ EZD-2 Filter Assembly (the "EZD-2" or "Pall device"). The EZD-2 is a fluid separation device which, like the Mykrolis invention, positions and maintains the filter module's connectors in fluid tight engagement with the connectors on a manifold and allows for quick and easy change-out of the filter capsule. Mykrolis contends that Pall's EZD-2 infringes at least independent claim 3 of the '770 Patent and independent claim 1 of the '907 Patent.

The parties fully briefed the issues and the Court held a five-day combination preliminary injunction and claim construction hearing, during which the parties presented evidence and argument regarding their construction of the claims of the patents in suit and Mykrolis's prayer for a preliminary injunction.

## II. LEGAL ANALYSIS

Whether a preliminary injunction should issue turns upon four factors: (1) the movant's reasonable likelihood of success on the merits; (2) the irreparable harm the movant will suffer absent preliminary injunctive relief; (3) the balance of hardships tipping in its favor; and (4) the impact of the injunction on the public interest. Bio-Tech. Gen. Corp. v. Genentech, Inc., 80 F.3d 1553, 1558 (Fed. Cir. 1996); New Comm Wireless Servs., Inc. v. Sprintcom, Inc., 287 F.3d 1, 8-9 (1st Cir. 2002). If a patentee makes a "clear showing" of both validity and infringement, it is entitled to a rebuttable presumption that it will suffer irreparable harm if the injunction does not issue. Purdue Pharma L.P. v. Boehringer Ingelheim GMBH, 237 F.3d 1359, 1363 (Fed. Cir. 2001). However, in order for the court to make a determination regarding validity and infringement, it must first construe the claims of the subject patents. See Interactive Gift Express, Inc. v. CompuServe, Inc., 256 F.3d 1323, 1330 (Fed. Cir. 2001) ("First, the claims of the patent must be construed to determine their scope. Second, a determination must be made as to whether the properly construed claims read on the accused device.") (citation omitted).

Claim construction begins with the language of the claim itself, and the "ordinary and accustomed meaning of a disputed claim term is presumed to be the correct one." K-2 Corp. v. Salomon S.A., 191 F.3d 1356, 1362-63 (Fed. Cir. 1999). In other words, a term must be given "the

full range of its ordinary meaning as understood by persons skilled in the relevant art.” Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202 (Fed. Cir. 2002); see also Johnson Worldwide Assocs., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed. Cir. 1999) (“[A] court must presume that the terms in the claim mean what they say, and, unless otherwise compelled, give full effect to the ordinary and accustomed meaning of claim terms.”).

When the meaning of a term is not clear from the language of the claim alone, the court looks first to intrinsic evidence to aid its understanding of the term, i.e., the patent itself, the specification, and, if in evidence, the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed. Cir. 1996). “Such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language.” Id. Indeed, the specification may be particularly important in determining the proper scope of a claim when the claim recites a “means” for performing a specific “function.”<sup>1</sup> When a court determines that a particular claim includes a means-plus-function limitation, it must look to the specification to determine what structures correspond to the means for performing the function. Kemco Sales, Inc. v. Control Papers Co., 208 F.3d 1352, 1361 (Fed. Cir. 2000). Only structures that are disclosed in the specification or are “equivalent” to the disclosed structures will literally meet a § 112, ¶ 6 means-plus-function limitation. Id. at 1364. An accused structure is “equivalent” under 35 U.S.C. § 112 if it performs the identical function and is otherwise insubstantially different with respect to structure from the described structure. Kemco, 208 F.3d at 1364. If an accused structure does not perform the identical

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<sup>1</sup> “An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” 35 U.S.C. § 112, ¶ 6.

function of the disclosed structure, it may nevertheless still be an “equivalent” under the doctrine of equivalents if it performs substantially the same function, in substantially the same way, to achieve substantially the same result. Id.

If necessary, a court may consider extrinsic evidence, such as expert testimony or dictionaries, in order to aid its determination as to the true meaning of the language employed in the patent. See Zodiac Pool Care v. Hoffinger Indus., 206 F.3d 1408, 1414 (Fed. Cir. 2000) (“The court turns to extrinsic evidence only when the intrinsic evidence is insufficient to establish the clear meaning of the asserted claim.”). However, the court must be mindful not to use such evidence to vary or contradict the plain meaning of the claim as apparent from the intrinsic evidence. With this framework in mind, the Court now construes the disputed claim terms of the patents in suit.

A. Construction of Claim 3 of the ‘770 Patent

The ‘770 Patent is entitled “Disposable Separation Module With Quick Connect Capability.”

Claim 3 of the ‘770 Patent claims an invention as follows:

3. A fluid separation apparatus comprising:
  - a disposable separation module;
  - a fluid connector member;
  - said separation module including:
    - a housing;
    - a separation element contained within said housing;
    - a first set of a plurality of connector means located on one end of said housing and being in fluid communication with the interior thereof for introducing and withdrawing fluids from the interior of said housing, said first set of connector means being parallel and spaced apart from one another and being exclusive of one another;
  - said fluid connector member including a second set of a plurality of connector means being positioned and sized and shaped to engage in fluid tight relationship with said first set of connector means, wherein said fluid tight engagement is effected through a first motion which during said engagement is substantially linear and parallel to the axes of both said first and second set of connector means; and

retention means for locking said separation module to said fluid connector member wherein said locking is accomplished by a second motion which is substantially perpendicular to said first motion, wherein said retention means includes a receptor mounted to said fluid connector member for receiving, aligning and retaining said separation module and further including moveable latching means mounted either on said fluid connector member or said separation module, said latching means being moveable in a plane substantially perpendicular to said first motion thereby locking said connector member to said separation element.

Claim 3 is directed to a fluid separation apparatus which includes at least the following elements:

1. *“A disposable separation module”*

The fluid separation apparatus in claim 3 includes a separation module that is installed and removed as a unit and can be disposed of after removal. Thus, when the separation element requires replacement, the filter (including the housing) is removed from the apparatus and disposed of.

2. *“A fluid connector member”*

The fluid separation apparatus also includes a fluid connector member, or manifold block, that connects the separation module to the fluid separation apparatus.

3. *“Said separation module including: a housing; a separation element contained within said housing; [and] a first set of a plurality of connector means located on one end of said housing and being in fluid communication with the interior thereof for introducing and withdrawing fluids from the interior of said housing”*

The separation module includes a separation element (such as a filter) enclosed within a housing to remove contaminants from fluids. The term “connector means” is presented in “means-plus-function” language and invokes 35 U.S.C. § 112, ¶ 6. The separation module includes a first group of two or more connector means located on one end of the housing. At least two connector means are required because the connector means perform the function of introducing and

withdrawing fluids from the interior of the housing. Therefore, at least one connector allows for fluid inlet and the other for fluid outlet. The corresponding structures disclosed in the specification to perform this function include female connectors 21 in Figure 2 and male connectors 42 in Figure 4a, and equivalent structures.

4. *“Said first set of connector means being parallel and spaced apart from one another and being exclusive of one another”*

The first group of two or more connector means on the separation module are parallel and spaced apart from one another. The connector means are also exclusive of one another in that they do not share a common seal.

5. *“Said fluid connector member including a second set of a plurality of connector means being positioned and sized and shaped to engage in fluid tight relationship with said first set of connector means”*

The fluid connector member (or manifold) includes a second group of at least two connector means. The term “connector means” invokes 35 U.S.C. § 112, ¶ 6. The function of the second group of connector means is to effect a fluid tight seal with the first group of connector means during fluid processing conditions. The connectors in the second group of connector means are of a certain size and shape and are positioned on the fluid connector member so as to engage the first group of connector means on the separation module and, so engaged, to form a fluid tight seal. The corresponding structures disclosed in the specification to perform this function includes the male connectors 25 in Figure 2 and female connectors 54 in Figures 5a-5c, and equivalent structures.

6. *“Wherein said fluid tight engagement is effected through a first motion which during said engagement is substantially linear and parallel to the axes of both said first and second set of connector means”*

The parties do not dispute that the fluid tight connection between the first and second group of connector means results from a first motion that is substantially linear and parallel to the axes of both the first and second set of connector means during the engagement.

7. *“Retention means for locking said separation module to said fluid connector member”*

This phrase refers to the method for maintaining the fluid tight engagement between the connectors on the separation module and the connectors on the fluid connector member. The term “retention means” invokes 35 U.S.C. § 112, ¶ 6. The function of the retention means is to lock the separation module to the fluid connector member when the two are mated in fluid tight engagement.

8. *“Wherein said locking is accomplished by a second motion which is substantially perpendicular to said first motion”*

The parties do not dispute that the locking of the separation module and the fluid connector member results from or is actuated by a second motion that is substantially perpendicular to the first motion of connecting the first and second group of connector means.

9. *“Wherein said retention means includes a receptor mounted to said fluid connector member for receiving, aligning and retaining said separation module”*

The retention means includes a receptor means mounted to the fluid connector member. The receptor performs the triple function of receiving, aligning and retaining the separation module. “Receiving” means that the receptor means accepts the separation module for subsequent movement into fluid tight engagement with the fluid connector member. “Aligning” means that the receptor



means orients the separation module such that the connectors in the first group of connector means will be positioned in line with the connectors in the second group of connector means to allow for a fluid tight seal of the first and second group of connector means during the engagement portion of the first motion. “Retaining” means that the receptor means maintains a fluid tight seal between the separation module and the fluid connector member during fluid processing conditions. The corresponding structures disclosed in the specification to perform these functions include the module receptor 5 in Figure 1, which contains slots 32 in Figure 3b that mate with flange 22 in Figure 2 on the separation module housing.

Since the term “retention means” invokes 35 U.S.C. § 112, ¶ 6, the court “must look to the specification and interpret that language in light of the corresponding structure, material, or acts described therein, and equivalents thereof . . . .” Kegel Co. v. AMF Bowling, Inc., 127 F.3d 1420, 1427 (Fed. Cir. 1997) (citation omitted). The specification states that the aligning of the separation module to the manifold block can be done using other means, “as for example the inclusion of counterbores and pins on the housing instead of flanges and slots.” ‘770 Patent, col. 8, lines 10-12. The specification also discloses “other means of retention of the module in sealing engagement to the fluid manifold block, as for example the use of cams, levers or pins instead of latches and sliding plates.” ‘770 Patent, col. 8, lines 15-18. The Oxford English Dictionary defines “retention” as “[t]he action or fact of holding fast or keeping fixed in a place or position; the fact or property of being kept, or remaining, in place.” The Oxford English Dictionary, vol. XIII, at 775 (2d ed. 1989).

10. *“And further including moveable latching means mounted either on said fluid connector member or said separation module”*

The retention means also includes a moveable latching means. The term “moveable latching means” invokes 35 U.S.C. § 112, ¶ 6. The function of the moveable latching means is to lock the separation module and the fluid connector member during fluid processing conditions. In the Mykrolis invention, this function is accomplished using a latch 34a and 34b, as shown in Figures 3a and 3b, and a sliding plate 52, as shown in Figures 5a and 5b. However, the specification discloses “other means of retention of the module in sealing engagement to the fluid manifold block, as for example the use of cams, levers or pins instead of latches and sliding plates.” ‘770 Patent, col. 8, lines 15-18. Thus, the specification states that the function of locking the separation module to the fluid connector member could also be accomplished using cams, levers and pins.

11. *“Said latching means being moveable in a plane substantially perpendicular to said first motion thereby locking said connector member to said separation element”*

The parties agree that the latching means is moveable in a plane that is substantially perpendicular to the first motion. Where the first motion is vertical, the plane of movement of the latching means is horizontal.

B. Construction of Claim 1 of the ‘907 Patent

The ‘907 Patent is a continuation of the ‘770 Patent and is entitled “Connector Apparatus and System Including Connector Apparatus.” Claim 1 of the ‘907 Patent claims an invention as follows:

1. A manifold construction for effecting fluid communication of a fluid processing module with a fluid feed source and a fluid outlet conduit which comprises:  
a manifold housing including means for retaining a fluid processing module within said manifold housing;

means for locking said fluid processing module into a first position within said manifold housing;  
means for positioning (a) a fluid inlet of said fluid processing module in sealing relationship with said fluid feed source and (b) a fluid outlet of said fluid processing module in sealing fluid communication with said fluid outlet conduit, and  
means for unlocking said fluid processing module from said first position.

Claim 1 is directed to a manifold construction for effecting fluid communication of a fluid processing module with a fluid feed source and a fluid outlet conduit which includes at least the following elements:

1. *“A manifold housing”*

The manifold construction in claim 1 includes a manifold housing.

2. *“Means for retaining a fluid processing module within said manifold housing”*

The manifold housing includes means for retaining a fluid processing module (filter module) within the manifold housing. The corresponding structures disclosed in the specification to perform this function include flange 22 in Figure 2 that mates with the pair of slots 32 in Figure 3b, and flange 22a in Figure 4a that mates with slots 96 in Figure 6b. Means for retaining invokes § 112, ¶ 6 and is construed as a mechanism for retaining the fluid processing module within the manifold housing that includes flanges, slots and equivalent structures.

3. *“Means for locking said fluid processing module into a first position within said manifold housing”*

The manifold construction includes means for locking, which invokes § 112, ¶ 6. The function that the means for locking performs is locking the fluid processing module together with the manifold connectors in a fluid tight relationship. The corresponding structures disclosed in the

specification to perform this function include latch 34 in Figure 1 in conjunction with notch 35 in Figure 3a and spring loaded arm 90 in Figures 6b and 6c operating in conjunction with opening 92. Means for locking is construed as a mechanism for locking the fluid processing module into sealing engagement with the manifold, which mechanism includes latches, spring loaded arms, and their equivalents.

4. *“Means for positioning (a) a fluid inlet of said fluid processing module in sealing relationship with said fluid feed source and (b) a fluid outlet of said fluid processing module in sealing fluid communication with said fluid outlet conduit”*

The manifold construction includes means for positioning, which invokes § 112, ¶ 6. The function of the means for positioning is to position and align the inlet and outlet ports of the fluid processing module in fluid tight engagement with the mating ports of the fluid feed source and fluid outlet conduit, respectively. The corresponding structure disclosed in the specification for performing this function includes manifold housing 5 in Figure 1, which is attached to manifold 3 by hinges 33. Slots 32 in module receptor 5 (shown in Figure 3b) assure that the fluid inlet of the fluid processing module is properly positioned in sealing relationship with the fluid feed source and that the fluid outlet of the fluid processing module is positioned in sealing fluid communication with the fluid outlet conduit. Additionally, the specification discloses arms 82 in Figures 6a-6c, which are pivotally connected to flange 84 at connection 86.

Means for positioning is construed as a mechanism for positioning and aligning the inlet and outlet ports of the fluid processing module in fluid tight engagement with the mating ports of the fluid feed source and fluid outlet conduit, respectively. The means for positioning includes a manifold with slots and arms. This is supported by the specification, which provides that in Figures 1 and 2,

“[f]lange 22, attached to housing 23, positions the entire module 2 and further provides the module’s alignment to manifold block 3 in conjunction with module receptor 5, and as such, assists in the retention of module 2 in sealing engagement to manifold block 3.” ‘907 Patent, col. 4, lines 52-57.

5.       *“Means for unlocking said fluid processing module from said first position”*

The manifold construction also includes means for unlocking, which invokes § 112, ¶ 6. The function of the means for unlocking is to unlock the fluid processing module from the first position. The corresponding structure disclosed in the specification to perform this function includes latch 34 in Figure 1 operating in conjunction with notch 35 in Figure 3a and slots 32 in Figure 3b. The corresponding structure also includes arm 88 in Figures 6b and 6c that is pulled to release arm 90 from engagement with opening 92. Means for unlocking is construed as a mechanism for unlocking the fluid processing module from the first position that includes latches and spring loaded arms and their equivalents.

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Having construed the disputed claim terms, the Court examines whether a preliminary injunction should issue.

C.       Reasonable Likelihood of Success on the Merits

Pall argues that Mykrolis is unable to demonstrate a reasonable likelihood of success on the merits of its claims because the EZD-2 does not infringe the claims of the ‘770 and ‘907 Patents, and anticipatory prior art not considered by the United States Patent Office (“USPTO”) renders the claims invalid.

1.       *Infringement*

The Court begins by assessing whether all of the elements or limitations of the subject claims are present in the accused device. See Vehicular Techs. Corp. v. Titan Wheel Int'l, 141 F.3d 1084, 1088 (Fed. Cir. 1998). Pall contends that the EZD-2 does not infringe because it lacks at least the “moveable latching means” in claim 3 of the ‘770 Patent and the “means for locking” and “means for unlocking” in claim 1 of the ‘907 Patent, as those terms have been construed under 35 U.S.C. § 112, ¶ 6.

As previously stated, “[i]n order for an accused structure to literally meet a section 112, paragraph 6 means-plus-function limitation, the accused structure must either be the same as the disclosed structure or be a section 112, paragraph 6 ‘equivalent,’ i.e., (1) perform the identical function and (2) be otherwise insubstantially different with respect to structure.” Kemco Sales, 208 F.3d at 1364 (citations omitted). The EZD-2 performs the identical function as the Mykrolis invention, as claimed in the ‘770 and ‘907 Patents – i.e. it positions the connector means on the separation module (filter module) into fluid tight engagement with the connector means on the fluid connector member (manifold), and it secures the separation module and fluid connector member in that position for fluid processing. In doing so, the EZD-2, like the Mykrolis invention, seeks to ensure that filter installation and change-out occur quickly, with minimal loss of fluid, without spillage, and without the introduction of contaminants.

While the EZD-2 does not contain the same locking structure as the Mykrolis invention, as described in detail in the specification, the structural differences are insubstantial. It is true that the lever and pins in the EZD-2 are not physically “structurally equivalent” to the Mykrolis latch and sliding plate, but a rigid comparison of physical structures in a vacuum is inappropriate in this particular case. IMS Tech., Inc. v. Haas Automation, Inc., 206 F.3d 1422, 1436 (Fed. Cir. 2000).

In the context of the claimed invention, the levers and pins in the Pall device and the latch in the Mykrolis invention are equivalent structures. See id. The specification itself says so. ‘770 Patent, col. 8, lines 15-18. Of paramount importance to these devices is positioning and holding the filter module and manifold in a fluid tight engagement to prevent any escape of fluid or contamination, and to accomplish this with a device that allows for quick and easy change-out of the filter module. A person of ordinary skill in the art would have recognized the interchangeability of latches versus levers and pins to accomplish these functions. Nayfeh Aff. ¶ 9, Nayfeh Supp. Aff. ¶¶ 6-11.<sup>2</sup>

In both the Pall device and the Mykrolis invention, locking of the filter module to the manifold is accomplished by a second motion which is substantially perpendicular to the first motion. See Nayfeh Aff. ¶¶ 8-9. As the handle of the EZD-2 is pivoted downward, it moves the receptor and filter module upward in a substantially vertical direction and positions the connectors on the filter module in sealing relationship with the corresponding connectors on the manifold. Id. ¶ 8. The filter module is then “locked” to the manifold by pins and linking members which move horizontally slightly over center in a direction that is substantially perpendicular to the first motion. Id. ¶ 9. A spring loaded pin or button mounted on the EZD-2 manifold then pops out to further ensure that the handle remains in the fully down position so that the filter module remains in fluid tight engagement with the manifold. The module is then unlocked by depressing the spring loaded pin and pivoting the handle upwards. The Court agrees with Pall that this spring loaded button is not the primary means for locking the filter member to the manifold, because when the button is removed the handle remains

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<sup>2</sup> Having had the opportunity to observe the parties’ experts, Professors Igor Paul and Samir Nayfeh, as they testified during the course of the five-day preliminary injunction and claim construction hearing, I find Professor Nayfeh’s testimony generally the more credible, though I do not credit his testimony in its entirety.

in the fully down position. See Paul Decl. ¶ 35. Nevertheless, the pins and linking members in the Pall device perform the identical function as the corresponding latch and sliding plate described in the specification of the ‘770 Patent in substantially the same way to achieve substantially the same result, and the EZD-2 is therefore “equivalent” for purposes of § 112, ¶ 6. See Kemco Sales, 208 F.3d at 1364; Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259, 1267-70 (Fed. Cir. 1999). The pins and linking members move horizontally over center perpendicular to the vertical motion of the filter module until they hold, or lock, the filter module to the manifold. Furthermore, as noted, the use of levers or pins instead of latches and sliding plates was disclosed in the specification.

Thus, Mykrolis has shown that it has a reasonable likelihood of proving literal infringement by statutory equivalence at trial. But even if the EZD-2 does not literally infringe, Mykrolis has at least shown a likelihood of proving infringement under the similar, yet broader, doctrine of equivalents, because the Pall device performs substantially the same function, in substantially the same way, to achieve substantially the same result as the Mykrolis invention, as disclosed in the ‘770 and ‘907 Patents. Kemco Sales, 208 F.3d at 1364.

## 2. *Validity*

Pall argues that the ‘770 Patent and the ‘907 Patent are invalid on the grounds that they are both anticipated and obvious in light of the prior art. 35 U.S.C. §§ 102, 103. “Under 35 U.S.C. § 282, a patent is presumed valid and one challenging its validity bears the burden of proving invalidity by clear and convincing evidence.” Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1216 (Fed. Cir. 1998). However, at the preliminary injunction stage, “the trial court does not resolve the validity question but rather must . . . make an assessment of the persuasiveness of the challenger’s evidence, recognizing that it is doing so without all evidence that may come out at trial.” New



England Braiding Co. v. A.W. Chesterton Co., 970 F.2d 878, 882-83 (Fed. Cir. 1992). “While it is not the patentee’s burden to prove validity, the patentee must show that the alleged infringer’s defense lacks substantial merit.” Id. at 883.

a. *Anticipation*

A finding of “[i]nvalidity for anticipation requires that all of the elements and limitations of the claim are found within a single prior art reference. There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention.” Scripps Clinic & Research Found. v. Genentech, Inc., 927 F.2d 1565, 1576 (Fed. Cir. 1991) (citations omitted). Pall contends that four uncited prior art patents, U.S. Patent No. 3,727,764 (the “Ogden Patent”) and U.S. Patent No. 4,559,136 (the “Dockery Patent”), U.S. Patent No. 5,022,986 (the “Lang Patent”), and U.S. Patent No. 5,762,787 (the “Park Patent”), disclose each of the elements of claim 3 of the ‘770 Patent and claim 1 of the ‘907 Patent.

The Ogden Patent discloses a fluid filtration device used to purify drinking water having a replaceable filter cartridge. The Ogden Patent does not appear to anticipate claim 3 of the ‘770 Patent because, while it discloses a receptor for receiving and retaining a filter cartridge, the receptor in the Ogden Patent does not automatically align the filter cartridge such that the inlet and outlet conduits of the manifold are positioned in line with the mating connectors on the filter cartridge, which is an important aspect of the Mykrolis invention. There is a distinction to be made between devices created specifically for the filtration of hazardous and expensive chemicals for the semiconductor industry and water filtration devices. As the former are designed to provide for quick filter change-out with minimal release of hazardous chemicals and fumes, reliable and accurate mating of the connectors is crucial and can be achieved by adding flanges to the filter capsule to allow for

automatic alignment, as in the Mykrolis and Pall devices but not the Ogden Patent. Similarly, the Ogden Patent does not appear to anticipate claim 1 of the '907 Patent, because it does not contain a means for automatically positioning and aligning the mating connectors on the filter cartridge in sealing relationship with the inlet and outlet conduits of the fluid feed source (the manifold).

The Dockery Patent discloses an aquarium filtering system having a detachable filter assembly. The Dockery Patent does not appear to anticipate claim 3 of the '770 Patent. While the pump housing conduits in the Dockery Patent receive the filter assembly conduits, and the pump housing and filter assembly are locked in place by a yoke which slides in a plane substantially perpendicular to the first motion, the Dockery Patent fails to disclose a receptor mounted to the fluid connector member (the pump housing) for receiving, aligning and retaining the filter assembly itself. The Dockery Patent also does not appear to anticipate claim 1 of the '907 Patent because it does not contain a means for positioning the conduits on the filter assembly with the conduits of the fluid feed source (the pump housing).

The Lang Patent discloses a manifold and disposable filter assembly for separating foreign matter, such as chemicals, particulates, salts, minerals, and odors, from fluids. The Lang Patent does not appear to anticipate claim 3 of the '770 Patent or claim 1 of the '907 Patent because it does not disclose a mechanism for receiving and aligning the filter cartridge to the manifold. After the tubular members on the disposable filter cartridge are manually aligned with the pockets on the manifold, the yoke is placed around the filter cartridge and the nut is tightened, thereby drawing the filter cartridge into tight sealing engagement with the manifold. The Lang Patent also does not disclose the latching and locking means of the '770 and '907 Patents.

Lastly, the Park Patent relates to an ancillary fluid filtration system with a readily detachable

filter cartridge. Like the Lang Patent, the Park Patent does not appear to anticipate claim 3 of the '770 Patent or claim 1 of the '907 Patent because it does not disclose a mechanism for receiving and aligning or means for positioning the filter cartridge to the manifold.

b. *Obviousness*

Even if the Ogden, Dockery, Lang, and Park patents do not anticipate the Mykrolis patent claims, Pall contends that they are within a hair's breadth of anticipation and it would be obvious to one of ordinary skill in the art to modify the embodiments in these patents to add alignment aids. "In a challenge based on obviousness under 35 U.S.C. § 103, the person alleging invalidity must show prior art references which alone or combined with other references would have rendered the invention obvious to one of ordinary skill in the art at the time of invention." Al-Site Corp. v. VSI Int'l, Inc., 174 F.3d 1308, 1323 (Fed. Cir. 1999) (citations omitted). The challenger must also show some motivation or suggestion to combine the prior art teachings. Id. at 1323-24.

At this stage, Pall has not demonstrated any motivation or suggestion to combine the prior art teachings of Ogden, Dockery, Lang, and Park. Rather, Pall points to problems in these patents to support its conclusion that it would be obvious to one of ordinary skill in the art to modify the embodiments in these patents to add alignment aids. However, "[d]efining the problem in terms of

its solution reveals improper hindsight in the selection of the prior art relevant to obviousness.” Monarch Knitting Mach. Corp. v. Sulzer Morat GMBH, 139 F.3d 877, 881 (Fed. Cir. 1998); see also Al-Site, 174 F.3d at 1324-25. Pall does not point to any specific teaching or suggestion for making this modification.

Secondary considerations further tend to establish the nonobviousness of the claimed inventions. Mykrolis has presented evidence of a long-felt industry need for its invention and a nexus, albeit thin, between the invention and commercial success. See Merrow Aff. ¶¶ 10-13, 15; Merrow Supp. Aff. ¶¶ 7-9.

Accordingly, on the evidence available at this stage, Mykrolis has made a sufficient showing that Pall’s defenses lack substantial merit. Although it is possible that at trial Pall may ultimately prevail on its defenses, Mykrolis has shown that it will likely prove infringement and that its infringement claim will likely withstand Pall’s challenges to validity of the patents. Purdue Pharma, 237 F.3d at 1363.

#### D. Irreparable Harm

As Mykrolis has made a “clear showing” of its likely success on the merits on both validity and infringement, it is entitled to a rebuttable presumption that it will suffer irreparable harm if an injunction does not issue. Id. at 1363, 1367. Pall has not produced evidence sufficient to rebut this presumption.

Mykrolis and Pall directly compete to supply filtration technology to the semiconductor industry and continued sales of the EZD-2 in the United States will likely result in significant, irreparable loss of sales and market share to Mykrolis.

Though Mykrolis was aware of the allegedly infringing EZD-2 in the Fall of 2001, and its Assistant General Counsel concluded that the Pall device infringed the Mykrolis patents in August 2002, Mykrolis did not unreasonably delay in filing its motion for a preliminary injunction because it did not have sufficient information regarding whether the EZD-2 was made, used or sold in the United States until February 2003, roughly one month before it filed the instant action seeking a preliminary injunction.

E. Balance of the Hardships and Public Interest

The balance of hardships and public interest considerations also favor the grant of a preliminary injunction. The magnitude of the threatened injury to Mykrolis, as stated above, outweighs any injury to Pall in the continued sale of a likely infringing product, and the public interest favors the enforcement of patents.

III. CONCLUSION

For the foregoing reasons, the plaintiff's motion for a preliminary injunction is GRANTED.

Pall and any entity through which it does business, and its officers, directors, agents, parent and related corporations, servants, employees, and attorneys, and those in active concert or participation with them, are hereby ENJOINED from infringing the '770 and '907 Patents, contributorily infringing the '770 and '907 Patents, and actively inducing infringement of the '770 and '907 Patents until further order of this Court.

Pall and any entity through which it does business, and its officers, directors, agents, parent and related corporations, servants, employees, and attorneys, and those in active concert or participation with them, are further ENJOINED from making, using, selling, or offering to sell within the United States, or from importing into the United States, the product now being sold under the

name PhotoKleen™ EZD-2 Filter Assembly, or any colorable imitation thereof, until further order of this Court.

Pall is further ORDERED and directed to forward a copy of this Memorandum and Order to all customers of the product being sold under the name PhotoKleen™ EZD-2 Filter Assembly, and to notify these customers that they may be liable for use of infringing devices.

Pall is further ORDERED and directed to file with this Court and serve on the plaintiff, within thirty days after the service of this Memorandum and Order, a report in writing under oath setting forth in detail the manner and form in which Pall has complied with the preliminary injunction.

It is further ORDERED that Mykrolis shall post an injunction bond in cash or by a corporate surety qualifying under Local Rule 67.1 in the sum of \$100,000 for payment of such costs and damages as may be incurred by Pall in the event that it has been wrongfully enjoined. Such bond shall be filed with the Clerk of the Court forthwith.

It is SO ORDERED.

April 30, 2004  
DATE

\s\ George A. O'Toole, Jr.  
DISTRICT JUDGE